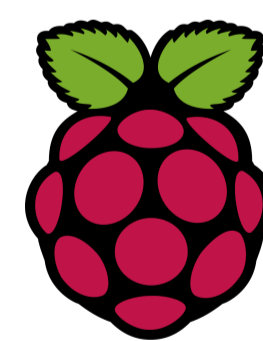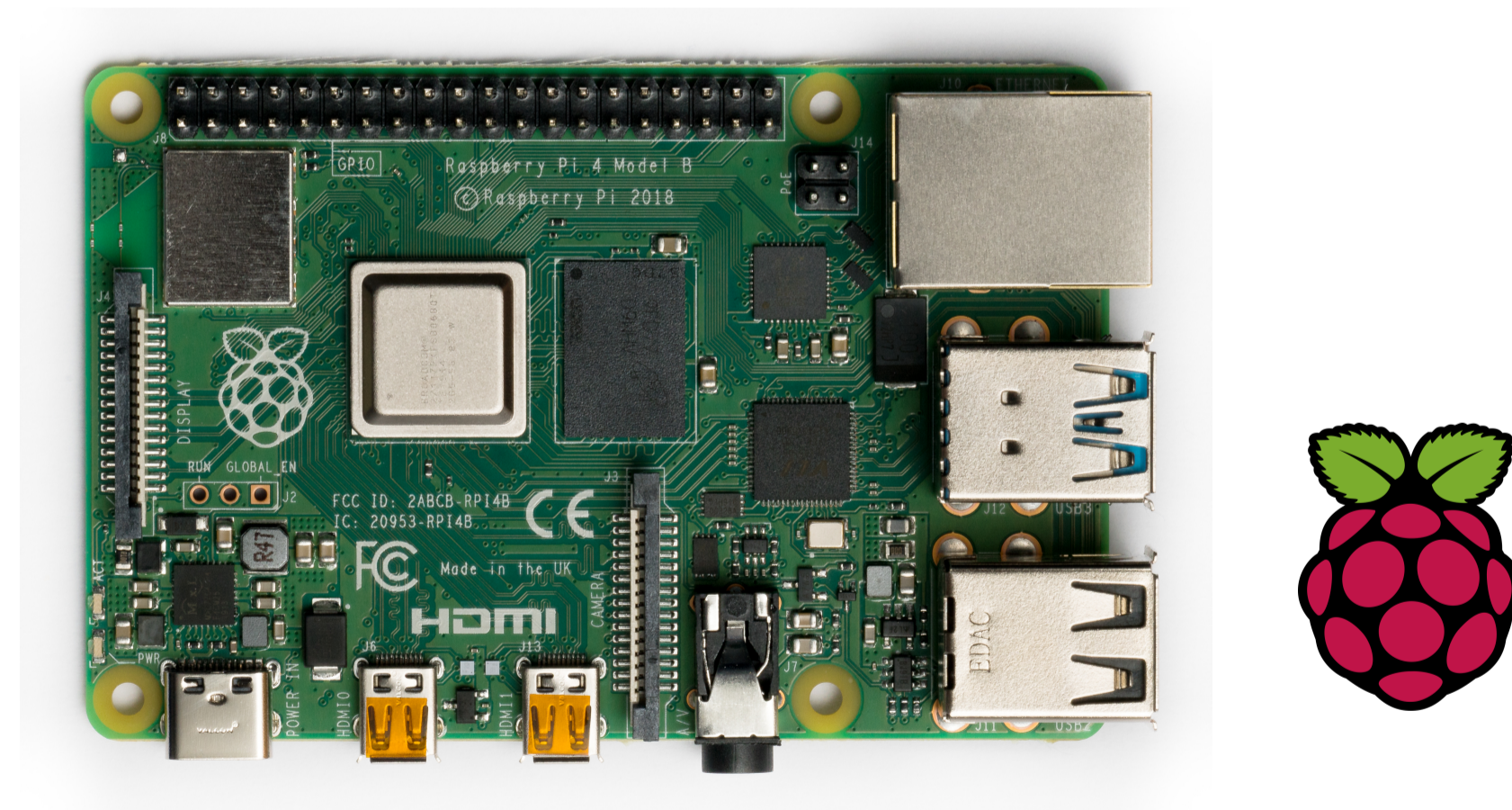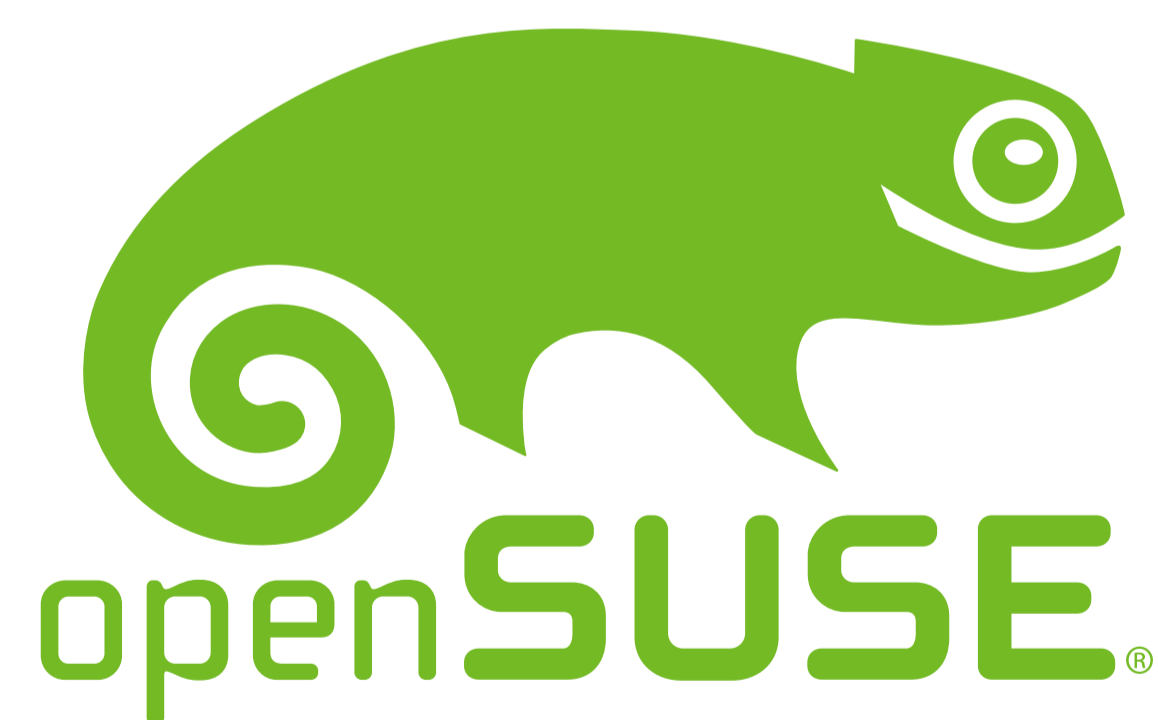# Raspberry Pi 4 running 64-bit openSUSE with kernel Live Patching

Matthias Brugger - SUSE

What is demonstrated

RPi4 running mainline Linux:
- **U-Boot v2019.10**
- **Kernel v5.3**
    - plus submitted **upstream patches**
    - kernel Live Patching for
      CVE-2018-13405

Hardware Information

Supported hardware (work in progress):
SD card, USB type C, EFI frame buffer

What was improved

Contributions to upstream:
- RPi4 support for U-Boot
- DMA support for devices which can
  only access 1 GB of RAM
- Live Patching for arm64

Next steps in upstreaming:
- Kernel
    - fix PCI/Ethernet upstream
    - reliable stack traces for Live Patching
- U-Boot:
    - one binary for RPi3/4
    - support Ethernet

Source code or detail technical information availability

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https://en.opensuse.org/Portal:ARM